Draft 2/27/2019

STATEMENT OF BASIS

FOR THE ISSUANCE OF
A NPDES PERMIT

U.S. Environmental Protection Agency
Region 5, NPDES Programs Branch - WN-15J
77 West Jackson Boulevard
Chicago, Illinois 60604
(312) 886-6106

Public Notice No.: Draft

Public Notice Issued On: Draft **Comment Period Ends:** Draft

Permit No.: WI-0036587-5 (REISSUANCE) **Application No.: WI-0036587-5**

Name and Address of Applicant:

Bad River Utilities
Bad River Band of the Lake Superior
Tribe of Chippewa Indians
P.O. Box 39
Odanah, Wisconsin 54861

Name and Address of Facility Where Discharge Occurs:

Bad River Wastewater Treatment Plant
Bad River Indian Reservation
New Odanah, Wisconsin
Ashland County
(E ½ of the SE 1/4 of Sec. 30, T48N, R2W)

Receiving Water: Bad River

DESCRIPTION OF APPLICANT'S FACILITY AND DISCHARGE

The above facility is located within the boundaries of the Bad River Indian Reservation. The EPA has retained the authority to issue NPDES permits to facilities with discharges to waters of the United States within the boundaries of Indian Reservations. The EPA is issuing this NPDES permit under the authorities of the Clean Water Act.

The existing treatment facility consists of mechanical fine screens followed by an influent equalization tank. Wastewater then flows to a two tank sequencing batch reactor (SBR) system. Though some biological removal of phosphorus occurs in the system, a chemical feed system is also used for phosphorus removal. Effluent from the SBR's goes through ultra-violet disinfection and then discharges to the Bad River (Outfall 002). The treatment facility has a design flow of 0.14 million gallons per day of wastewater.

Waste activated sludge is pumped to an aerobic digester and then to one of two treatment/storage lagoons. The treatment/storage lagoons are the old aerated stabilization lagoons that were taken out

of service in 1996. One lagoon is approximately 8 feet deep, 0.3 acres in area. The other lagoon is 6 feet deep and 3.38 acres in area. It is the latter lagoon that is being used at this time. The permittee is looking at options for the final disposal of the sludge, whether it is to continue using the lagoons for treatment/storage, to land apply the sludge, or to haul it to another facility for treatment.

Section 401 Water Quality Certification

Where states or tribes have federally approved water quality standards that are applicable at the point of discharge, federal NPDES permits cannot be issued unless water quality certification for the discharge is granted or waived pursuant to Section 401 of the Clean Water Act. The tribal Section 401 authority within the Bad River Band is the Tribal Council. The permittee has provided a copy of its NPDES permit application and requested Section 401 certification from the Bad River Band. EPA has provided a copy of the draft NPDES permit to the Council. If the Council needs any additional information in order for the Section 401 application to be considered complete, the Council will request such information from the permittee. It is the permittee's responsibility to ensure that the Council has received a valid, complete application for tribal Section 401 certification and to obtain a final Section 401 action from the Council.

ESA and NHPA Compliance

EPA believes it has satisfied its requirements under the Endangered Species Act. This is an existing facility that has previously been permitted by EPA. We reviewed the USFWS website for threatened and endangered species and their critical habitat listed within Ashland County. The site identified the Gray wolf and Piping plover as endangered species and the Canada lynx, Northern long-eared bat and Rufa red knot as threatened species. This facility has been in existence for many years and no new construction is planned. The discharges from the above facilities have been treated and should have no effect on any of the species or the species' critical habitat, especially for the Canada lynx, the Gray wolf, the Northern long-eared bat and the Rufa red knot (see https://ebird.org/map: no sightings in area of discharges). Regarding the Piping plover, it can be found along the Lake Superior shoreline. Specific critical habitat has been identified along the shoreline of the Bad River Reservation, however, the facility and discharge are outside the critical habitat and should not adversely affect the plover or its critical habitat.

EPA believes it has satisfied its requirements under the National Historical Preservation Act. This is an existing facility that has previously been permitted by EPA. We do not have any records indicating any historical properties being in the area of potential effect (the existing site and discharge location). Also, no construction is planned at the site during the permit term. Therefore, we believe that no historic or archeological sites or cultural resources will be affected by the continued operation of the facility and its discharge with the reissuance of the permit.

Receiving Water

The Bad River is protected under the Bad River Band's Water Quality Standards (WQS) within the exterior boundaries of the Bad River Indian Reservation to protect public health and welfare, agricultural uses, navigation, industrial water supply, public water supply in areas with designated public water supply intakes, enhance the quality of water, serve the purposes of CWA. Also, the Bad River supports wild rice habitat for sustainable growth and safe consumption.

All numeric chronic criteria apply at in-stream flow rate greater than or equal to the flow rate calculated as the minimum 7-consecutive day average flow with recurrence frequency of once in ten years (7Q10) of 180 cfs. Narrative criteria apply regardless of flow. Numeric acute criteria apply regardless of flow.

Proposed Effluent Limitations:

Monitoring Point 002A- the permittee is authorized to discharge treated municipal wastewater from Monitoring Point 002A through Outfall 002, which discharges to the Bad River.

Effluent Characteristics	Discharge Limitations						
	Concentration (Specified Units)				Quantity/Loading (lbs/day)		
Parameter	Minimum	Monthly	Weekly	Maximum	Monthly	Weekly	Maximum
Flow (MGD)	-	-	-	-	Report	-	Report
Dissolved Oxygen (mg/L)	5.0	-	-	-	-	-	-
pH (SU)	6.0	-	-	8.5	-	-	-
Total Suspended Solids (TSS) (mg/L)	-	30	45	-	35	53	-
Biochemical Oxygen Demand (BOD_5) (mg/L)	-	30	45	-	35	53	-
Phosphorus, Total (mg/L)	-	1.0	2.0	-	1.17	2.34	-
Nitrogen, ammonia (mg/L) May 1 – September 30	-	2.43	-	6.41	-	-	-
Nitrogen, ammonia (mg/L) October 1 – April 30	-	4.09	-	6.41	-	-	-
Sulfates (mg/L)	-	Report	-	Report	-	-	-
Mercury, Total (ng/L)	-	-	-	Report	-	-	-
Mercury, Total (ng/L) effective beginning on the expiration date of the permit	-	0.194	-	-	2.3×10^{-7}	-	-
E. coli (#/100ml)	-	126*	-	235	-	-	-
BOD percent removal (%)	85	-	-	-	-	-	-
TSS percent removal (%)	85	-	-	-	-	-	-
Outfall observation (yes/no)	-	-	-	-	Report	-	-

* Geometric Mean

Loading limits in the permit were calculated using the following formula:
0.140 mgd x limit (mg/L) x 8.34 = Loading (lbs/d).

Basis for Permit Requirements
The limits were developed to ensure compliance with 40 CFR Parts 131 and 133, Bad River's water quality standards, and protection of Wisconsin's water quality standards where they are applicable.

pH
The limits for pH are based on secondary treatment requirements pursuant to 40 CFR Part 133 and Permit Writer's Judgment.

Biochemical Oxygen Demand(BOD)
The limits for BOD are based on secondary treatment requirements pursuant to 40 CFR Part 133. A 7-day average limit of 45 mg/L and a 30-day average limit of 30 mg/L are carried from the previous permit; these are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively.

Total Suspended Solids (TSS)
The limits for TSS are based on secondary treatment requirements pursuant to 40 CFR Part 133. A 7-day average limit of 45 mg/L and a 30-day average limit of 30 mg/L are carried from the previous permit; these are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively.

E.coli
The limits for E.coli are based on Bad River's water quality criteria. The geometric mean of not less than 5 samples equally spaced over a 30-day period shall not exceed an E.coli count of 126 Colony Forming Units (CFU) per 100 milliliters (mL). Any single sample shall not exceed an E.coli count of 235 CFU per 100 mL.

Mercury
The previous permit required monitoring for mercury to help determine whether the permittee can meet the Bad River's Human Health criteria of 0.194 ng/L. A Pollutant Minimization Program for mercury was also included in the permit to help identify possible sources of mercury in the system. Based on the monitoring data collected, the discharge has a reasonable potential to cause or contribute to a violation of the Human Health criteria. Therefore, the permit includes a monthly average limit for mercury based on the criteria. The permit also includes a 5-year compliance schedule as allowed by 40 CFR 132 Appendix F: Procedure 9. The permit also contains a reopener clause in the event that the permittee requests a variance to the water quality standard. If a variance is approved by the Band and EPA, the compliance schedule is moot, and the alternative limit will take effect upon modification of the permit.

Phosphorus
The Bad River is not impaired for nutrients at the point of discharge or at the reservation boundary. To protect the receiving stream against nuisance plant growth problems and ensure that Bad River's Water Quality Standards are met at the reservation boundary, the permit contains a monthly average limit for total phosphorus of 1.0 mg/l, which is a technology standard, and a weekly average limit of 2.0 mg/l pursuant to 40 CFR section 122.44(d). The permit also requires the submittal of a phosphorus operational evaluation report that will include an evaluation of collected effluent data,

possible source reduction measures, operational improvements or other minor facility modifications that will optimize reductions in phosphorus discharges from the wastewater treatment plant.

Dissolve Oxygen
A minimum dissolved oxygen discharge limit of 5.0 mg/L, is included in the permit based on Bad River WQS.

Sulfates
The Bad River, at the point of discharge supports wild rice habitat for sustainable growth and safe consumption. The WQS for the Bad River Band do not have numeric standards for sulfates. Monitoring is required to provide information related to sulfate levels being discharged and the possible impacts to wild rice waters. The data will be used to help the Bad River Band develop numeric standards if determined necessary to protect wild rice waters. Since the discharge does not appear to adversely affect the receiving water's designated uses, development of limits based on the Band's narrative criteria is not needed at this time. A reopener clause is included in the permit to possibly modify the permit if numeric standards are developed.

Ammonia Nitrogen
The previous required monitoring for ammonia nitrogen to provide information related to ammonia nitrogen levels being discharged from the wastewater treatment plant. The monitoring data collected indicates there is a reasonable potential to cause or contribute to a violation of the Band's water quality standards. Summer and winter effluent limits were developed that we believe will ensure compliance with the Band's standards. Based on the data collected, we do not believe a compliance schedule is needed as the permittee can consistently meet the limits.

Disinfection
According to the permit application, the facility utilizes an ultraviolet disinfection system. Therefore, total residual chlorine requirements have not been included in this permit. If the permittee wishes to change from ultra-violet disinfection to some other type of disinfection (e.g., chlorine), the permittee must notify EPA and receive approval from EPA prior to changing methods.

Additional Monitoring
In accordance with 40 CFR § 122.21(j)(4)(iv)(C), EPA is requiring the permittee to monitor for the parameters found in Table 2 of Appendix J to 40 CFR Part 122 one time during the permit term with the data to be submitted with the next permit renewal application. The data will be used to determine if additional limits are needed in the next permit.

Also, additional monitoring for Total Kjeldahl Nitrogen (TKN), Oil and Grease, Nitrate plus Nitrite Nitrogen and Total Dissolved Solids (TDS) is required for discharges with a design flow greater than 0.1 MGD. This monitoring is an application requirement of 40 CFR § 122.21(j).

Asset Management
Regulations regarding proper operation and maintenance are found at 40 CFR § 122.41(e).

These regulations require, "that the permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit." The treatment plant and the collection system are included in the definition of "facilities and systems of treatment and control" and are therefore subject to the proper operation and maintenance requirements of 40 CFR § 122.41(e).

Similarly, a permittee has a "duty to mitigate" pursuant to 40 CFR §122.41(d), which requires the permittee to "take all reasonable steps to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment."

The draft permit requirements are the first steps of an asset management program which contains goals of effective performance, adequate funding, adequate operator staffing and training. Asset management is a planning process that ensures that you get the most value from each of your assets and have the financial resources to rehabilitate and replace them when necessary, and typically includes five core elements which identify: 1) the current state of the asset; 2) the desired level of service (e.g., per the permit, or for the customer); 3) the most critical asset(s) to sustain performance; 4) the best life cycle cost; and 5) the long term funding strategy to sustain service and performance.

EPA believes that requiring a certified wastewater operator and adequate staffing will help to ensure that the facilities and systems of treatment and control will be properly operated and maintained. Mapping the system service area will help the operator get a better handle on the assets that he/she is responsible for and the resources needed to properly operate and maintain them. This will help in the development of a budget and a user rate structure that is necessary to sustain the operation, maintenance and repair of the system. Requiring the development and implementation of a preventive maintenance program is one reasonable step that the permittee can take to minimize or prevent a discharge in violation of the permit.

Special Conditions

- The permit requires electronic reporting.
- The permit requires the continued implementation of an Operation & Maintenance Plan. The plan covers the use of a certified operator to oversee the facility, having adequate staff to help ensure compliance with the permit, mapping the treatment system, developing a preventive maintenance program and other items.
- The permit requires the continued implementation of a Pollutant Minimization Program for Mercury.
- The permit contains a compliance schedule for meeting effluent limits for mercury.
- The permit contains Industrial Waste Pretreatment Program requirements in accordance with 40 CFR Parts 122 and 403.
- Compliance with 40 CFR Part 503 (sludge use and disposal regulations). These requirements were developed using the Part 503 Implementation Guidance for sludge and 40 CFR Parts 122, 501, and 503. It is not expected that any sludge will be used or disposed of during this permit term. EPA is to be contacted if sewage sludge is to be removed from the pond system.

- Additional monitoring as required for discharges with a design flow greater than 0.1 MGD. This monitoring is an application requirement of 40 CFR 122.21(j).
- A one-time priority pollutant scan is required.
- The permit requires the submittal of a Phosphorus Operational Evaluation Report annually.

Significant Changes from the Last Permit

Following are the significant changes in the draft permit:

- Effluent limits for mercury and ammonia have been added to the permit (Part I.A).
- The Reporting requirement has been changed to require electronic submittal of DMRs. (Part I.C.2)
- Additional requirements related to Asset Management have been added. (Part I.C.3)
- The ammonia reopener clause has been removed.
- A compliance schedule for meeting the new effluent limits for mercury has been added (Part I.C.5).
- A special condition has been added requiring the permittee to notify EPA if the disinfection method is changed (Part I.C.10)
- The permit requires the submittal of a Phosphorus Operational Evaluation Report annually. (Part I.C.12)

The permit is based on applications dated May 4, 2018, and additional supporting documents found in the administrative record.

The permit can be effective for five years from the date of reissuance as allowed by 40 CFR 122.46.

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